**Safety Data Sheet**

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| **SECTION 1. Identification of the substance/mixture and of the company/undertaking** |

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| **1.1. Product identifier** | |
| Product name | **RADEX PRIMER, art. 220001** |
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| **1.2. Relevant identified uses of the substance or mixture and uses advised against** | |
| Intended use | **One-component adhesion promoter for the automotive industry** |

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| --- | --- | --- | --- |
| Identified Uses | Industrial | Professional | Consumer |
| CLEANERS AND ADHESION PROMOTERS FORMULATIONS IN INDUSTRY |

SU: 10.

ERC: 2.

PROC: 3, 4, 5, 8a, 8b, 9.

|  |  |  |
| --- | --- | --- |
| PC: 14, 15. | - | - |
| INDUSTRIAL USES OF CLEANERS AND ADHESION PROMOTERS |

SU: 15, 17, 19.

ERC: 8b.

PROC: 10.

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| --- |
| PC: 14, 15. |

SU: 15, 17, 19.

ERC: 8b.

PROC: 10.

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| --- | --- |
| PC: 14, 15. | - |
| CHEMICAL SUBSTANCE USE IN LABORATORY, INDUSTRIAL |

PROC: 15.

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| PC: 14, 15. | - | - |

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| **1.3. Details of the supplier of the safety data sheet** | |
| RADEX-Europe SIA |  |
| Uriekstes iela 3, Riga, Latvija |  |
|  |  |
|  |  |
|  |  |
|  |  |
| [info@radex-europe.lv](mailto:info@radex-europe.lv) |  |
| +371 67387778 |  |
|  |  |

|  |
| --- |
| **1.4. Emergency telephone number**  **+371 67387778** |
| For urgent inquiries refer to |

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| **SECTION 2. Hazards identification** |

**2.1. Classification of the substance or mixture**

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

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| --- | --- | --- |
| Flammable liquid, category 2 | H225 | Highly flammable liquid and vapour. |
| Eye irritation, category 2 | H319 | Causes serious eye irritation. |
| Respiratory sensitization, category 1 | H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Specific target organ toxicity - single exposure, category 3 | H336 | May cause drowsiness or dizziness. |
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**2.2. Label elements**

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

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| Hazard pictograms: | |  | | | | | | |
|  |  | |  |  |  |  |  |

|  |  |
| --- | --- |
| Signal words: | Danger |

Hazard statements:

|  |  |
| --- | --- |
| **H225** | Highly flammable liquid and vapour. |
| **H319** | Causes serious eye irritation. |
| **H334** | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| **H336** | May cause drowsiness or dizziness. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |
| **EUH204** | Contains isocyanates. May produce an allergic reaction. |

Precautionary statements:

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| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| **P261** | Avoid breathing dust / fume / gas / mist / vapours / spray. |
| **P280** | Wear protective gloves/ protective clothing / eye protection / face protection. |
| **P304+P340** | IF INHALED: remove person to fresh air and keep comfortable for breathing. |
| **P342+P311** | If experiencing respiratory symptoms: call a POISON CENTER / doctor / . . . |
| **P370+P378** | In case of fire: use dry sand, dry chemical or alcohol-resistant foam to extinguish. |
|  |  |
| **Contains:** | ISOPHORONE DIISOCYANATE |
|  | DIPHENYLMETHANE-4,4'-DIISOCYANATE |
|  | METHYL ETHYL KETONE |

**2.3. Other hazards**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

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| **SECTION 3. Composition/information on ingredients** |

**3.1. Substances**

Information not relevant

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| **3.2. Mixtures** |

Contains:

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| **Identification** | **x = Conc. %** | **Classification 1272/2008 (CLP)** |  |
| **METHYL ETHYL KETONE** |  |  |  |
| CAS 78-93-3 | 62 ≤ x < 66 | Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066 |  |
| EC 201-159-0 |  |  |  |
| INDEX 606-002-00-3 |  |  |  |
| Reg. no. 01-2119457290-43 |  |  |  |
| **DIPHENYLMETHANE-4,4'-DIISOCYANATE** |  |  |  |
| CAS 101-68-8 | 0,89 ≤ x < 1 | Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: 2 C |  |
| EC 202-966-0 |  |  |  |
| INDEX 615-005-00-9 |  |  |  |
| Reg. no. 01-2119457014-47-XXXX |  |  |  |
| **ISOPHORONE DIISOCYANATE** |  |  |  |
| CAS 4098-71-9 | 0,44 ≤ x < 0,5 | Acute Tox. 1 H330, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Aquatic Chronic 2 H411, Classification note according to Annex VI to the CLP Regulation: 2 |  |
| EC 223-861-6 |  |  |  |
| INDEX 615-008-00-5 |  |  |  |
| Reg. no. 01-2119490408-31 |  |  |  |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

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| **SECTION 4. First aid measures** |

**4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

**4.2. Most important symptoms and effects, both acute and delayed**

Specific information on symptoms and effects caused by the product are unknown.

**4.3. Indication of any immediate medical attention and special treatment needed**

Information not available

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| **SECTION 5. Firefighting measures** |

**5.1. Extinguishing media**

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

**5.2. Special hazards arising from the substance or mixture**

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

**5.3. Advice for firefighters**

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

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| **SECTION 6. Accidental release measures** |

**6.1. Personal precautions, protective equipment and emergency procedures**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

**6.3. Methods and material for containment and cleaning up**

Collect the leaked product into a suitable container. If the product is flammable, use explosion-proof equipment. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

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| **SECTION 7. Handling and storage** |

**7.1. Precautions for safe handling**

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

**7.2. Conditions for safe storage, including any incompatibilities**

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

Storage class TRGS 510 (Germany):

3

**7.3. Specific end use(s)**

Information not available

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| **SECTION 8. Exposure controls/personal protection** |

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| **8.1. Control parameters** |

Regulatory References:

|  |  |  |
| --- | --- | --- |
| DEU |  |  |
|  | Deutschland | TRGS 900 (Fassung 4.11.2016) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte |
| ESP |  |  |
|  | España | INSHT - Límites de exposición profesional para agentes químicos en España 2017 |
| FRA |  |  |
|  | France | JORF n°0109 du 10 mai 2012 page 8773 texte n° 102 |
| GBR |  |  |
|  | United Kingdom | EH40/2005 Workplace exposure limits |
| GRC |  |  |
|  | Ελλάδα | ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ -ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012 |
| HRV |  |  |
|  | Hrvatska | NN13/09 - Ministarstvo gospodarstva, rada i poduzetništva |
| ITA |  |  |
|  | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| POL |  |  |
|  | Polska | ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 7 czerwca 2017 r |
| PRT |  |  |
|  | Portugal | Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diaro da Republica I 26; 2012-02-06 |
| SWE |  |  |
|  | Sverige | Occupational Exposure Limit Values, AF 2011:18 |
| EU |  |  |
|  | OEL EU | Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC. |
|  |  |  |
|  | TLV-ACGIH | ACGIH 2017 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **METHYL ETHYL KETONE** | | | | | | | | | | | | |
| **Threshold Limit Value** | | | | | | | | | | | | |
| Type | Country | TWA/8h |  | STEL/15min | |  | | |  | |  | |
|  |  | mg/m3 | ppm | mg/m3 | | ppm | | |  | |  | |
| AGW |  |  |  |  | |  | | |  | |  | |
|  | DEU | 600 | 200 | 600 | | 200 | | | SKIN | |  | |
| MAK |  |  |  |  | |  | | |  | |  | |
|  | DEU | 600 | 200 | 600 | | 200 | | | SKIN | |  | |
| VLA |  |  |  |  | |  | | |  | |  | |
|  | ESP | 600 | 200 | 900 | | 300 | | |  | |  | |
| VLEP |  |  |  |  | |  | | |  | |  | |
|  | FRA | 600 | 200 | 900 | | 300 | | | SKIN | |  | |
| WEL |  |  |  |  | |  | | |  | |  | |
|  | GBR | 600 | 200 | 899 | | 300 | | | SKIN | |  | |
| TLV |  |  |  |  | |  | | |  | |  | |
|  | GRC | 600 | 200 | 900 | | 300 | | |  | |  | |
| GVI |  |  |  |  | |  | | |  | |  | |
|  | HRV | 600 | 200 | 900 | | 300 | | | SKIN | |  | |
| VLEP |  |  |  |  | |  | | |  | |  | |
|  | ITA | 600 | 200 | 900 | | 300 | | |  | |  | |
| NDS |  |  |  |  | |  | | |  | |  | |
|  | POL | 450 |  | 900 | |  | | |  | |  | |
| VLE |  |  |  |  | |  | | |  | |  | |
|  | PRT | 600 | 200 | 900 | | 300 | | |  | |  | |
| MAK |  |  |  |  | |  | | |  | |  | |
|  | SWE | 150 | 50 | 300 | | 100 | | |  | |  | |
| OEL |  |  |  |  | |  | | |  | |  | |
|  | EU | 600 | 200 | 900 | | 300 | | |  | |  | |
| TLV-ACGIH |  |  |  |  | |  | | |  | |  | |
|  |  | 590 | 200 | 885 | | 300 | | |  | |  | |
| Predicted no-effect concentration - PNEC | | | |  | | |  | | | |  | |
| Normal value in fresh water | | | | 55,8 | | | mg/l | | | |  | |
| Normal value for fresh water sediment | | | | 284,74 | | | mg/kg | | | |  | |
| Normal value for marine water sediment | | | | 284,7 | | | mg/kg | | | |  | |
| Normal value for water, intermittent release | | | | 55,8 | | | mg/l | | | |  | |
| Normal value of STP microorganisms | | | | 709 | | | mg/l | | | |  | |
| Normal value for the terrestrial compartment | | | | 22,5 | | | mg/kg | | | |  | |
| **Health - Derived no-effect level - DNEL / DMEL** | | | | | | | | | | | | |
|  | Effects on consumers |  |  |  | Effects on workers | | |  | |  | |  |
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Chronic local | | | Acute local | | Acute systemic | | Chronic systemic |
| Oral |  |  | VND | 31 mg/kg bw/d |  | | |  | |  | |  |
| Inhalation |  |  | VND | 106 mg/m3 |  | | |  | | VND | | 600 mg/m3 |
| Skin |  |  | VND | 412 mg/kg bw/d |  | | |  | | VND | | 1161 mg/kg bw/d |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **DIPHENYLMETHANE-4,4'-DIISOCYANATE** | | | | | | | |
| **Threshold Limit Value** | | | | | | | |
| Type | Country | TWA/8h |  | STEL/15min |  |  |  |
|  |  | mg/m3 | ppm | mg/m3 | ppm |  |  |
| MAK |  |  |  |  |  |  |  |
|  | DEU | 0,05 |  | 0,05 |  | SKIN |  |
| MAK |  |  |  |  |  |  |  |
|  | DEU | 0,05 |  | 0,05 |  | INHAL |  |
| VLA |  |  |  |  |  |  |  |
|  | ESP | 0,052 | 0,005 |  |  |  |  |
| VLEP |  |  |  |  |  |  |  |
|  | FRA | 0,1 | 0,01 | 0,2 | 0,02 |  |  |
| TLV |  |  |  |  |  |  |  |
|  | GRC | 0,2 |  | 0,2 |  |  |  |
| NDS |  |  |  |  |  |  |  |
|  | POL | 0,03 |  | 0,09 |  |  |  |
| MAK |  |  |  |  |  |  |  |
|  | SWE | 0,03 | 0,002 | 0,05 (C) | 0,005 (C) |  |  |
| TLV-ACGIH |  |  |  |  |  |  |  |
|  |  | 0,051 | 0,005 |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ISOPHORONE DIISOCYANATE** | | | | | | | | |
| **Threshold Limit Value** | | | | | | | | |
| Type | Country | TWA/8h |  | STEL/15min |  | |  |  |
|  |  | mg/m3 | ppm | mg/m3 | ppm | |  |  |
| TLV-ACGIH |  |  |  |  |  | |  |  |
|  |  |  | 0,005 |  |  | |  |  |
| Predicted no-effect concentration - PNEC | | | |  | |  | |  |
| Normal value in fresh water | | | | 0,06 | | mg/l | |  |
| Normal value in marine water | | | | 0,006 | | mg/l | |  |
| Normal value for fresh water sediment | | | | 218,92 | | mg/kg | |  |
| Normal value for marine water sediment | | | | 21,89 | | mg/kg | |  |
| Normal value of STP microorganisms | | | | 10,6 | | mg/l | |  |
| Normal value for the terrestrial compartment | | | | 44,01 | | mg/kg | |  |

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

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| **8.2. Exposure controls** |

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect your hands with work gloves, category III (ref. standard EN 374). For the final choice of material you need to assess the type of use. In case of contact for the short term or as protection against splashes, use gloves made ​​of nitrile (0.3mm thickness, permeation time >480 min.). In the event of continued exposure use butyl rubber gloves (0.4mm thickness, permeation time> 480 min.). Contaminated gloves should be removed.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

In case of exceeding the threshold value (eg, TLV-TWA) of the substance or one or more of the substances present in the product, it is advisable to wear a mask with filter type A for organic vapors, the class (1, 2 or 3) must be chosen according to the limit concentration of use (1000, 5000 or 10000 ppm) (ref. standard EN 14387).

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

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| **SECTION 9. Physical and chemical properties** |

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| **9.1. Information on basic physical and chemical properties** |

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| Appearance | liquid |
| Colour | black |
| Odour | solvent |
| Odour threshold | Not available |
| pH | Not available |
| Melting point / freezing point | Not available |
| Initial boiling point | 80 °C |
| Boiling range | Not available |
| Flash point | -10 °C |
| Evaporation rate | Not available |
| Flammability (solid, gas) | Not available |
| Lower inflammability limit | Not available |
| Upper inflammability limit | Not available |
| Lower explosive limit | 0,8 % (V/V) |
| Upper explosive limit | 11,5 % (V/V) |
| Vapour pressure | 150 bar |
| Vapour density | 2,5 |
| Relative density | 0,95 |
| Solubility | Not available |
| Partition coefficient: n-octanol/water | Not available |
| Auto-ignition temperature | 400 °C |
| Decomposition temperature | Not available |
| Viscosity | Not available |
| Explosive properties | Not available |
| Oxidising properties | Not available |

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| **9.2. Other information** |

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| --- | --- |
| VOC (Directive 2010/75/EC) : | 61,91 % - 588,10 g/litre |
| VOC (volatile carbon) : | 43,26 % - 410,98 g/litre |

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| **SECTION 10. Stability and reactivity** |

**10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

METHYL ETHYL KETONE

Reacts with: light metals,strong oxidants.Attacks various types of plastic materials.Decomposes under the effect of heat.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Decomposes at 274°C/525°F.

With water it develops carbon dioxide and forms an insoluble solid polymer and consequently any wet material recovered must be stored in open containers.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

METHYL ETHYL KETONE

May form peroxides with: air,light,strong oxidising agents.Risk of explosion on contact with: hydrogen peroxide,nitric acid,sulphuric acid.May react dangerously with: oxidising agents,trichloromethane,alkalis.Forms explosive mixtures with: air.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

May react dangerously with: alcohols,amines,ammonia,sodium hydroxide,acids,water,strong acids,strong bases.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

METHYL ETHYL KETONE

Avoid exposure to: sources of heat.

**10.5. Incompatible materials**

METHYL ETHYL KETONE

Incompatible with: strong oxidants,inorganic acids,ammonia,copper,chloroform.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

May develop: nitric oxide,carbon oxides,hydrogen cyanide.

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| **SECTION 11. Toxicological information** |

**11.1. Information on toxicological effects**

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

DIPHENYLMETHANE-4,4'-DIISOCYANATE

WORKERS: inhalation; contact with the skin.

POPULATION: inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Causes symptoms of irritation of the eye mucous membranes, upper respiratory and digestive tract and also to the skin; lung irritation of the bronchitis type (chest pains, cough, asthmatic wheezing), neurological symptoms (dizziness, balance disorders, headaches and consciousness disturbances). In severe cases, may give rise to delayed pulmonary edema (INRS, 2009). May cause hypersensitivity pneumonia which, in the event of continuous exposure, may progress to interstitial fibrosis (INRS, 2009).

Interactive effects

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Cross sensitisations with other isocyanates are possible, in particular with TDI (toluene diisocyanate).

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:> 5 mg/l

LD50 (Oral) of the mixture:Not classified (no significant component)

LD50 (Dermal) of the mixture:Not classified (no significant component)

ISOPHORONE DIISOCYANATE

LD50 (Oral) 4814 mg/kg Rattus sp.

LD50 (Dermal) > 7000 mg/kg Rattus sp.

LC50 (Inhalation) 0,031 mg/l/4h Rattus sp.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

LD50 (Oral) > 2000 mg/kg Rattus sp.

LD50 (Dermal) > 9400 mg/kg Oryctolagus sp.

LC50 (Inhalation) 2,24 mg/l Rattus sp.

METHYL ETHYL KETONE

LD50 (Oral) 2737 mg/kg Rattus sp.

LD50 (Dermal) 6480 mg/kg Oryctolagus sp.

LC50 (Inhalation) 23,5 mg/l/8h Rattus sp.

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the respiratory systemMay produce an allergic reaction.Contains:

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

|  |
| --- |
| **SECTION 12. Ecological information** |

**12.1. Toxicity**

|  |  |  |
| --- | --- | --- |
| DIPHENYLMETHANE-4,4'-DIISOCYANATE |  |  |
| LC50 - for Fish |  | > 1000 mg/l/96h Danio rerio |
| Chronic NOEC for Algae / Aquatic Plants |  | 1640 mg/l Desmodesmus subspicatus |

|  |  |  |
| --- | --- | --- |
| METHYL ETHYL KETONE |  |  |
| LC50 - for Fish |  | 2993 mg/l/96h Pimephales promelas |
| EC50 - for Crustacea |  | 308 mg/l/48h Daphnia magna |

|  |
| --- |
| **12.2. Persistence and degradability** |

|  |  |  |
| --- | --- | --- |
| DIPHENYLMETHANE-4,4'-DIISOCYANATE |  |  |
| Solubility in water |  | 0,1 - 100 mg/l |

NOT rapidly degradable

|  |  |  |
| --- | --- | --- |
| METHYL ETHYL KETONE |  |  |
| Solubility in water |  | > 10000 mg/l |

Rapidly degradable

**12.3. Bioaccumulative potential**

|  |  |  |
| --- | --- | --- |
| DIPHENYLMETHANE-4,4'-DIISOCYANATE |  |  |
| Partition coefficient: n-octanol/water |  | 4,51 |

|  |  |  |
| --- | --- | --- |
| METHYL ETHYL KETONE |  |  |
| Partition coefficient: n-octanol/water |  | 0,3 |

**12.4. Mobility in soil**

Information not available

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**12.6. Other adverse effects**

Information not available

|  |
| --- |
| **SECTION 13. Disposal considerations** |

**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

|  |
| --- |
| **SECTION 14. Transport information** |

**14.1. UN number**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ADR / RID, IMDG, IATA: | 1139 |  |  |  |  |  |

**14.2. UN proper shipping name**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ADR / RID: | COATING SOLUTION |  |  |  |  |  |
| IMDG: | COATING SOLUTION |  |  |  |  |  |
| IATA: | COATING SOLUTION |  |  |  |  |  |

**14.3. Transport hazard class(es)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ADR / RID: | Class: 3 | Label: 3 |  |  |  |  |
| IMDG: | Class: 3 | Label: 3 |  |  |  |  |
| IATA: | Class: 3 | Label: 3 |  |  |  |  |

**14.4. Packing group**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ADR / RID, IMDG, IATA: | II |  |  |  |  |  |

**14.5. Environmental hazards**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ADR / RID: | NO |  |  |  |  |  |
| IMDG: | NO |  |  |  |  |  |
| IATA: | NO |  |  |  |  |  |

**14.6. Special precautions for user**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ADR / RID: |  | HIN - Kemler: 33 |  | Limited Quantities: 5 L |  | Tunnel restriction code: (D/E) |
|  |  | Special Provision: 640D |  |  |  |  |
| IMDG: |  | EMS: F-E, S-E |  | Limited Quantities: 5 L |  |  |
| IATA: |  | Cargo: |  | Maximum quantity: 60 L |  | Packaging instructions: 364 |
|  |  | Pass.: |  | Maximum quantity: 5 L |  | Packaging instructions: 353 |
|  |  | Special Instructions: |  | A3 |  |  |

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Information not relevant

|  |
| --- |
| **SECTION 15. Regulatory information** |

|  |
| --- |
| **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture** |

Seveso Category - Directive 2012/18/EC: P5c

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

|  |  |  |
| --- | --- | --- |
| Point | 3 - 40 |  |

Contained substance

|  |  |  |
| --- | --- | --- |
| Point | 56 | DIPHENYLMETHANE-4,4'-DIISOCYANATE Reg. no.: 01-2119457014-47-XXXX |

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisarion (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

|  |
| --- |
| **SECTION 16. Other information** |

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

|  |  |  |
| --- | --- | --- |
| **Flam. Liq. 2** | Flammable liquid, category 2 |  |
| **Carc. 2** | Carcinogenicity, category 2 |  |
| **Acute Tox. 1** | Acute toxicity, category 1 |  |
| **Acute Tox. 4** | Acute toxicity, category 4 |  |
| **STOT RE 2** | Specific target organ toxicity - repeated exposure, category 2 |  |
| **Eye Irrit. 2** | Eye irritation, category 2 |  |
| **Skin Irrit. 2** | Skin irritation, category 2 |  |
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |  |
| **Resp. Sens. 1** | Respiratory sensitization, category 1 |  |
| **Skin Sens. 1** | Skin sensitization, category 1 |  |
| **Aquatic Chronic 2** | Hazardous to the aquatic environment, chronic toxicity, category 2 |  |
| **H225** | Highly flammable liquid and vapour. |  |
| **H351** | Suspected of causing cancer. |  |
| **H330** | Fatal if inhaled. |  |
| **H332** | Harmful if inhaled. |  |
| **H373** | May cause damage to organs through prolonged or repeated exposure. |  |
| **H319** | Causes serious eye irritation. |  |
| **H315** | Causes skin irritation. |  |
| **H335** | May cause respiratory irritation. |  |
| **H334** | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |  |
| **H317** | May cause an allergic skin reaction. |  |
| **H336** | May cause drowsiness or dizziness. |  |
| **H411** | Toxic to aquatic life with long lasting effects. |  |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |  |
| **EUH204** | Contains isocyanates. May produce an allergic reaction. |  |

Use descriptor system:

|  |  |  |
| --- | --- | --- |
| **ERC** | **2** | Formulation of preparations |
| **ERC** | **8b** | Wide dispersive indoor use of reactive substances in open systems |
| **PC** | **14** | Metal surface treatment products, including galvanic and electroplating products |
| **PC** | **15** | Non-metal-surface treatment products |
| **PROC** | **10** | Roller application or brushing |
| **PROC** | **15** | Use as laboratory reagent |
| **PROC** | **3** | Use in closed batch process (synthesis or formulation) |
| **PROC** | **4** | Use in batch and other process (synthesis) where opportunity for exposure arises |
| **PROC** | **5** | Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) |
| **PROC** | **8a** | Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities |
| **PROC** | **8b** | Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities |
| **PROC** | **9** | Transfer of substance or preparation into small containers (dedicated filling line, including weighing) |
| **SU** | **10** | Formulation [mixing] of preparations and/or re-packaging (excluding alloys) |
| **SU** | **15** | Manufacture of fabricated metal products, except machinery and equipment |
| **SU** | **17** | General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment |
| **SU** | **19** | Building and construction work |

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road

- CAS NUMBER: Chemical Abstract Service Number

- CE50: Effective concentration (required to induce a 50% effect)

- CE NUMBER: Identifier in ESIS (European archive of existing substances)

- CLP: EC Regulation 1272/2008

- DNEL: Derived No Effect Level

- EmS: Emergency Schedule

- GHS: Globally Harmonized System of classification and labeling of chemicals

- IATA DGR: International Air Transport Association Dangerous Goods Regulation

- IC50: Immobilization Concentration 50%

- IMDG: International Maritime Code for dangerous goods

- IMO: International Maritime Organization

- INDEX NUMBER: Identifier in Annex VI of CLP

- LC50: Lethal Concentration 50%

- LD50: Lethal dose 50%

- OEL: Occupational Exposure Level

- PBT: Persistent bioaccumulative and toxic as REACH Regulation

- PEC: Predicted environmental Concentration

- PEL: Predicted exposure level

- PNEC: Predicted no effect concentration

- REACH: EC Regulation 1907/2006

- RID: Regulation concerning the international transport of dangerous goods by train

- TLV: Threshold Limit Value

- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.

- TWA STEL: Short-term exposure limit

- TWA: Time-weighted average exposure limit

- VOC: Volatile organic Compounds

- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation

- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament

9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament

10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament

11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament

12. Regulation (EU) 2016/1179 (IX Atp. CLP)

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- The Merck Index. - 10th Edition

- Handling Chemical Safety

- INRS - Fiche Toxicologique (toxicological sheet)

- Patty - Industrial Hygiene and Toxicology

- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition

- IFA GESTIS website

- ECHA website

- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:

The following sections were modified:

02 / 11 / 13.